Amendment to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application:

1-36. (canceled)

47. (Currently amended) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria in a human in need thereof, comprising administering to the human an effective amount of a recombinant protein ~~encoded by an~~ having the amino acid sequence consisting of SEQ ID NO.: 4.

48. (Currently amended) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria in a human in need thereof, comprising administering to the human an effective amount of a pharmaceutical composition comprising a recombinant protein and a pharmaceutically acceptable carrier, wherein the protein ~~comprises an~~ has the amino acid sequence ~~set forth in~~ consisting of SEQ ID NO: 4.

49. (New) The method according to claim 47, further comprising a step of administering to the human a polysaccharide antigen.

50. (New) The method according to claim 48, wherein the pharmaceutical composition further comprises a polysaccharide antigen.

51. (New) The method according to claim 50, wherein the polysaccharide antigen is a capsular polysaccharide of *Neisseria meningitidis*.

52. (New) The method according to claim 48, wherein the pharmaceutical composition further comprises a bacterial polysaccharide-protein conjugate, wherein said protein consists of the amino acid sequence set forth in SEQ ID NO: 4.

53. (New) The method according to claim 48, wherein the pharmaceutical composition further comprises a peptide antigen.

54. (New) The method according to claim 48, wherein the pharmaceutical composition is administered parenterally.

55. (New) The method according to claim 48, wherein the pharmaceutical composition is administered mucosally.

56. (New) The method according to claim 55, wherein the pharmaceutical composition is administered orally.

57. (New) A method of inducing an immune response against an infection caused by *Neisseria meningitidis* or *Neisseria gonorrhoeae* bacteria in a human in need thereof, comprising administering to the human an effective amount of a recombinant fusion protein, wherein the fusion protein comprises the N-terminus of P64k protein from *Neisseria meningitidis* and the amino acid sequence consisting of SEQ ID NO.: 4.